

REMARKS

Claims 1-88 are currently pending in this application. By this Amendment, claims 1-4, 8, 9, 15-18, 20-29, 34-39, 45-49, 51, 52, 54, 57, 60, 62, 67 and 70-72 are amended, and new claims 73-88 are added.

Claim Objections

Claims 45 and 46 have been objected to because of informalities in that both claims originally ended with two periods. Applicant has amended both claims to remove the occurrence of the two periods. Accordingly, the withdrawal of this objection is requested.

Claims Indicated as Allowable if Rewritten in Independent Form

Claims 3, 4, 9, 15, 16, 18, 19, 23-25, 28, 29, 34-37, 39, 40, 45, 47-49, 51, 52, 62, 63, 67, 70 and 71 have been objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In response to this objection, claims 3, 9, 15, 18, 23, 24, 28, 34, 35, 36, 39, 45, 47, 48, 49, 51, 62, 67 and 70 have been rewritten in independent form with the limitations of the base claim and any intervening claims (except as noted below).

Claim 34, which specifies a window pitched in a spiral pattern to expose portions of a plurality of electrodes, originally depended upon claim 30, which depended upon independent claim 26. The rewritten claim 34 includes the plurality of electrodes limitation of original claim 30 but not the plurality of windows limitation of original claim 30. An exemplary embodiment of a pitched window forming a spiral pattern is illustrated in figures 9 and 10, which show a single window exposing a plurality of electrodes. In addition, claim 34 as rewritten is consistent with the original language of claim 34 that specified the window as being “pitched to extend in a spiral pattern along the length and about the circumference of the insulating member and thereby expose portions of each of the electrodes.” Notwithstanding this variance from an exact reproduction of the limitations of the intervening dependent claim, it is submitted that claim 34 ought to be allowable along with the other claims that were indicated to be allowable if rewritten in independent form.

Claim 35 originally depended on claim 30, which depended upon claim 26. Original claim 30 specified an insulating member having a plurality of windows, whereas original claim 35 specified a plurality of insulating members defining differently configured windows. An exemplary embodiment of a kit having a plurality of insulating members is illustrated in figure 30, showing one insulating member 114 having one window and another insulating member 122 having four windows. The rewritten claim 35 includes the plurality of electrodes limitation of original claim 30 but not the insulating member having a plurality of windows limitation. Notwithstanding this variance from an exact reproduction of the limitations of the intervening dependent claim, it is submitted that claim 35 ought to be allowable along with the other claims that were indicated to be allowable if rewritten in independent form.

Claim 45, which specifies among other things, a method of producing directional output with an insulating member having a pitched window forming a spiral pattern, originally depended upon claim 44, which depended on claim 41, which depended on independent claim 38. Originally intervening dependent claims 41 and 44 specified the insulating member as defining a plurality of windows, and at least some of the windows as being defined at different circumferential positions about the lead body. An exemplary embodiment of a pitched window forming a spiral pattern is illustrated in figures 9 and 10, which show a single window exposing a plurality of electrodes. The rewritten claim 45 includes the pitched window forming spiral pattern limitation of original claim 45 but not the plurality of windows and at least some windows at different circumferential positions limitations of original claims 41 and 44. Notwithstanding this variance from an exact reproduction of the limitations of the intervening dependent claim, it is submitted that claim 45 ought to be allowable along with the other claims that were indicated to be allowable if rewritten in independent form.

The comments above regarding claims 34, 35 and 45 should not be construed as excluding from the scope of those claims any devices that include the surviving claim elements along with the omitted claim elements.

Claims 19, 40 and 63 were objected to as being dependent upon rejected base claims but each depend from one claim that has been rewritten in independent form as discussed above.

Claims 4, 16, 25, 29, 37, 52 and 71 were objected to as being dependent upon rejected base

claims but each has been amended to depend from a claim that has been rewritten in independent form as discussed above. These claims are submitted as being allowable because they depend from claims rewritten in independent form as discussed above. These dependent claims are also submitted as further patentably distinguishable over the references.

Claim Rejections - 35 USC § 102

Claims 1, 2, 5-8, 10-14, 17, 20-22, 26, 27, 30-33, 38, 41-44, 46, 50, 53-61, 64-66, 68, 69 and 72 stand rejected under 35 USC § 102(b) as being anticipated by Putz '702 (US4903702).

Claims 1, 26, 54, 60 and 72 have been amended to recite a substantially ring-like electrode approximately defining an arc or circumference, and an electrically insulating member. The insulating member as specified in claims 1, 26, 54, 60 and 72 covers a first portion of the arc or circumference of the electrode and includes a window that exposes a second portion of the electrode. As used herein with respect to arc or circumference, "approximately defining" is intended to include, in addition to a pure or exact arc or circumference, approximate arcs or circumferences, such as provided by various similar shapes such as ring-like polygons, ovals, etc. Putz '702 does not show or suggest a substantially ring-like electrode or insulating a portion of the arc or circumference of a ring-like electrode, and is submitted as simply not being relevant to amended claims 1, 26, 54, 60 and 72. Claims 2, 5-8 and 10-14 depend either directly or indirectly on claim 1, and are submitted as being allowable along with claim 1 and as further patentably distinguishing over the references.

Claim 17 has been amended to recite a substantially ring-like electrode approximately defining an arc or circumference, and a means for insulating at least a portion of the lead body, including at least a first portion of the arc or circumference of the electrode, and exposing a second portion of the electrode to increase the directionality of stimulation current delivered by the electrode. Putz '702 shows a flat paddle type lead that lacks substantially ring-like electrodes, and is submitted as simply not being relevant to the amended claim 17. Claims 20-22 depend either directly or indirectly on claim 17, and are submitted as being allowable along with claim 17 and as further patentably distinguishing over the references.

Claim 38 has been amended to recite a method for producing directional input from an implantable lead having (among other things) a substantially ring-like electrode. The method

specified in claim 38 includes positioning an insulating member relative to the lead body so that a window on the insulating member exposes a selected portion of the arc or circumference of the electrode, while the insulating member insulates at least one other portion of the arc or circumference. The method as specified in claim 38 is not shown or suggested in Putz '702. Claims 41-44, 46, 50, 53 depend either directly or indirectly on claim 38, and are submitted as being allowable along with claim 38 and as further patentably distinguishing over the references.

Claim 57 has been revised to specify that the distal and intermediate electrodes are "substantially ring-like" and the first and second electrically insulating members cover a portion of the circumference of the distal or intermediate electrode. The claimed first and second insulating members each has a first window that exposes a second portion of the distal or intermediate electrode. The implantable brain stimulation specified in claim 57 is not shown or suggested in Putz '702. Claims 58 and 59 depend on claim 57, and are submitted as being allowable along with claim 57 and as further patentably distinguishing over the references.

New Claims

New claims 73-88 are submitted as being supported by the original specification and being patentable over the references. Claim 73 is an independent claim, and claims 74-88 depend either directly or indirectly on claim 73. Claim 73 specifies among other things a substantially cylindrical lead body, a substantially ring-like electrode and an electrically insulating member that covers at least a first portion of the circumference of the electrode and defines a window that exposes a second portion of the electrode. Consideration and allowance of the new claims are requested.

Extension of Time, Authorization to Charge Fees

The transmittal letter attached to this response includes a request for a three month extension of time to respond to the Office Action, as well as authorization to charge any fees to Deposit Account 13-2546 in connection with such extension, the amended or new claims, or otherwise in connection with this paper.

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In view of the foregoing amendments, reconsideration and allowance of this application are requested.

Respectfully submitted,



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